357150

Fax

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Jim Sheldon

To: ~~Joe McDowell~~ **From:** Mike Christie

Fax: ~~(215) 814-3002~~ 399-4280 **Pages:** 27

Phone: (215) 814-3192 **Date:** Monday, April 30, 2001

Re: Work Plan for the Cinder/Slag Fill Area

☐ **Urgent** x **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

• **Comments:**

Dear Joe:

Attached is a copy of the subject document. Please give me a call if you need anything additional.

Thanks,

Mike

Penn E&R
Environmental & Remediation, Inc.

2755 Bergey Road•Hatfield, PA 19440•215-997-9000•fax 215-822-8575
Email:mail@penn-er.com

Penn E&R
Environmental & Remediation, Inc.

April 26, 2001
4013-20001

Mr. Joseph McDowell
Remedial Project Manager
United States Environmental
Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

and

Mr. Dave Minsker
Hazardous Site Cleanup Program
Pennsylvania Department of
Environmental Protection
Southeast Regional Office
Lee Park, Suite 6010
555 North Lane
Conshohocken, PA 19428

Subject: Proposed Site Characterization Activities for the Cinder/Slag Fill Area Located on LPT's Yellow Parcel

Dear Mr. McDowell and Mr. Minsker:

This letter is being submitted in response to our April 25, 2001 meeting where we discussed Liberty Property Trust's (LPT's) proposed remedial design for the cap to be installed over the cinder/slag fill area located on LPT's Yellow Parcel. As discussed, both the EPA and PADEP would like to see additional characterization of the fill prior to the installation of the proposed cap. This letter outlines the site characterization activities that are proposed for implementation in the cinder/slag fill area.

BACKGROUND INFORMATION

As part of LPT's due diligence survey, an area of fill material was identified in the northwest portion of their 2301 Renaissance Boulevard property. The approximate location of this fill area is shown on Figure 1. As part of the investigation of this material, nine test trenches were installed into this area at the approximate locations shown on Figure 1. Based on information obtained from the test trenches, the material in this area consists primarily of glass, ash, cinders, and slag. The surface expression of the fill encompasses an area, on average, about 150 feet long by 200 feet wide and the

fill is up to 10 feet thick. There is approximately 3,000 cubic yards of fill located in this area. The source of the fill is not known, however, based on historical aerial photographs, it was placed in this area prior to 1959.

To evaluate the chemical makeup of the fill, Penn E&R collected a grab soil sample from test trench FT-3. This sample, which was designated FT-3, was collected from material that appeared to be most representative of the fill and from an area where elevated PID readings were detected. The sample was analyzed for the Target Compound (TCL) volatile and semivolatile organic compounds and the TAL inorganics (i.e., metals and cyanide).

The results of the analysis of this sample are summarized in Table 1. In evaluating the fill sample results, the data were compared to Act 2 non-residential soil-to-groundwater MSCs and USEPA generic soil-screening-levels (SSLs). A review of Table 1 shows that no volatile or semivolatile organic compounds are present in the fill above Act 2 MSCs or USEPA SSLs. With the exception of arsenic and lead, no metals are present in the fill above Act 2 non-residential soil-to-groundwater MSCs or USEPA generic SSLs. Arsenic was detected above its very restrictive USEPA generic SSL of 0.026 mg/kg but not above its Act 2 non-residential soil-to-groundwater MSC. Lead was detected above both its Act 2 MSC and USEPA generic SSL.

To further characterize the fill material in the cinder/slag fill area, Penn E& R also collected one representative composite sample (sample FAA-5C/5G) of the fill material. This sample was collected by first dividing the fill area into four quadrants (Quadrants FAA-1 through FAA-4 as shown on Figure 2). Two sample aliquots from each quadrant were then collected at various depths. The individual sample aliquots were then thoroughly homogenized in a decontaminated stainless steel mixing bowl. A composite sample from the mixing bowl was then collected and placed directly into laboratory supplied sample bottles. This sample was designated FAA-5C/5G and was analyzed for the PADEP Form U Table A parameters. The volatile fraction of this sample (FAA-5C) was collected as a grab from the aliquot that displayed the highest volatile organic reading based on screening with a photoionization detector. Penn E&R also collected one individual composite sample from each of the four quadrants. These samples were designated FAA-1 through FAA-4 (see Figure 2) and each consisted of a composite of five individual aliquots collected from various depths from its corresponding quadrant. As an example, sample FAA-1 consisted of a composite of the five aliquots collected from quadrant FAA-1 and sample FAA-2 consisted of a composite of the five aliquots collected from quadrant FAA-2. As lead was identified as the only contaminant of concern for potential leachability, these samples were analyzed for TCLP lead.

The results of the analysis of sample FAA-5C/5G and samples FAA-1 through FAA-4 are included in Attachment 1. A review of Attachment 1 indicates that none of the PADEP Form U Table A parameters were detected above any EPA regulatory levels in sample FAA-5C/5G and TCLP lead was not detected above its EPA regulatory level in samples FAA-1 through FAA-4.

Two additional composite samples were collected from the fill pile . These samples were collected by first dividing the fill pile into two sections (Sections FAC-10 and FAC-11 as shown on Figure 3). Four sample aliquots from various depths were then collected from each section. The four individual

sample aliquots representing one of the sections were then thoroughly homogenized in a decontaminated stainless steel mixing bowl. A composite sample representative of the two sections was collected in this manner. These two samples were designated FAC-10 and FAC-11 and were analyzed for the TCLP metals, and PCBs and total petroleum hydrocarbons (TPHs). A copy of the results of the analysis of these samples is included in Attachment 2. A review of these results indicates that none of the TCLP metals were detected above their EPA regulatory levels in the two samples. Also, no PCBs were detected above laboratory detection limits in the two samples and each sample displayed a low TPH level of less than 210 mg/kg.

Based on the characterization sample results, the fill material in the cinder/slag fill area is not characteristically hazardous.

SCOPE OF WORK

The proposed site characterization will consist of the implementation of the following three tasks:

- Task 1 - Confirmation of the Limits of the Cinder/Slag Fill Area
- Task 2 - Collection of Representative Samples of the Cinder/Slag Fill
- Task 3 - Summary Report of Findings

The activities to be completed as part of the implementation of these tasks are discussed below.

Task 1 - Confirmation of the Limits of the Cinder/Slag Fill Area

As part of the Task 1 activities, Penn E&R will mobilize a backhoe to the site to install test trenches around the perimeter of the cinder/slag fill area. The results of the Task 1 activities will be used to confirm the limits and delineate the area to be subsequently included under the Cap.

Penn E&R currently envisions installing from ten to fifteen test trenches around the perimeter of the cinder/slag fill area. The initial test trenches will be located outside but within five feet of the expected extent of the cinder/slag fill area. The soil at each test trench location will be excavated and placed directly onto plastic sheeting. The test trenches will be excavated to a depth of at least five feet below the ground surface (BGS). The excavated soils will be visually inspected for evidence of fill. If fill is encountered, excavation at that location will be stopped and another test trench will be installed five feet further out from the trench in which fill was visually observed. This process will be continued until the limits of the cinder/slag fill area have been delineated. After the limits of the area have been delineated, the limits of the slag/fill area will be flagged. The exact boundaries of the cinder/slag fill area will then be surveyed and located on a scaled site map. Surveyed locations will be accurate within 0.05 feet on a horizontal basis and 0.01 feet on a vertical basis.

Task 2 - Collection of Representative Samples of the Cinder/Slag Fill

Prior to the implementation of the Task 2 activities, Penn E&R will construct a temporary decontamination pad. All vehicles that come in direct contact with the materials in the cinder/slag fill area will be decontaminated on the pad prior to leaving the area or the site. The pad will be constructed of a sufficient thickness of PVC and will be covered with plywood to ensure that the liner is not torn by the equipment. The pad will be constructed in such a way that the small amount of wash water generated will drain back to the cinder/slag fill area.

To supplement the existing chemical analytical data that exists for the cinder/slag fill area, Penn E&R will install six additional test trenches through the fill area. The exact locations at which these test trenches will be installed will be determined in the field after completion of the Task 1 activities. However, at least one test trench will be installed in each of the four equal quadrants into which this area will be divided. The two other test trenches will be installed at randomly selected location to ensure that the vertical and horizontal extent of the fill has been evaluated.

As part of the installation of the test trenches, the fill material excavated will be visually inspected and screened for the presence of volatile organic vapors with a photoionization detector (PID). The excavated materials from each trench will be placed on plastic sheeting. To confirm the field screening results, one sample from each test trench will be collected and submitted for laboratory analysis. The samples submitted for analysis will be those that display elevated PID readings. Also, samples will be collected at various depths from the six test trenches to ensure that a vertical characterization of the fill materials is completed. The six samples collected for analysis will be submitted to GLA Laboratories, a PADEP-certified laboratory located in King of Prussia, PA for analysis of the Target Compound List (TCL) volatile and semivolatile organic compounds and for the Target Analyte List (TAL) inorganics (i.e., metals and cyanide).

Upon completion of the test trenching activities, the excavated fill will be placed back into the trench from which it was removed. The test trench installation and sampling activities will be completed by Penn E&R OSHA-trained environmental technicians.

As indicated earlier, the primary contaminant of concern in the cinder/slag area is lead. This was also the primary contaminant of concern detected in Quarry No. 4. The maximum concentration at which lead was detected in the cinder/slag fill area was similar to the maximum concentration detected in Quarry No. 4 (i.e., just above 2,000 mg/kg). Penn E&R previously developed a Site-Specific Health and Safety Plan (SSHSP) for intrusive work completed/planned to be completed in Quarry No. 4. Since the contaminants of concern in Quarry No. 4 are similar to those in the cinder/slag fill area, all work in the cinder/slag fill area will be completed following the procedures and guidelines included in the document prepared by Penn E&R and entitled "Site-Specific Health & Safety Plan For Work Being Completed at Quarry No. 4 at Liberty Property Trust's 2201/2301 Renaissance Boulevard Properties, Upper Merion Township, Montgomery County, PA," dated April 20, 2001.

Task 3 - Summary Report of Findings

Upon completion of the Task 1 and Task 2 activities, Penn E&R will develop a summary report of findings. This report will include a detailed discussion of the site characterization activities implemented and the results of these activities. Scaled site maps will be provided that show the surveyed location of the cinder/slag fill area and all test trench and sample locations. The analytical data will be tabulated and compared to EPA generic Risk Based Concentrations/Soil-Screening-Levels and PADEP Act 2 non-residential MSCs. The report will be submitted to EPA and PADEP for review.

As discussed at our meeting, LPT would like to install the cap over this area as soon as possible so as not to impact their overall construction schedule. Therefore, we plan to implement the site characterization activities outlined in this letter starting on Wednesday, May 2, 2001.

Should you have any comments regarding this letter or any other-project related issues, or if you require additional information, please do not hesitate to call me.

Sincerely,
PENN ENVIRONMENTAL & REMEDIATION, INC.

Michael A. Christie, P.G.
Vice President

MAC:dlc
4013:scwpcsfa

cc: Andy Duchovany, Esq., EPA (w/enclosures)
Andy Hartzell, Esq., PADEP (w/enclosures)
George Donyliw, PADEP (w/enclosures)
Jim Wentzel, PADEP (w/enclosures)
Joe Bartlett, UMT (w/enclosures)
Andy Frebowitz, TTNUS (w/enclosures)
Bruce Hartlein, LPT (w/enclosures)
Jim Sunday, LPT (w/enclosures)
Brenda Gotanda, Esq., MGK (w/enclosures)
Darryl Borrelli, MGK (w/enclosures)

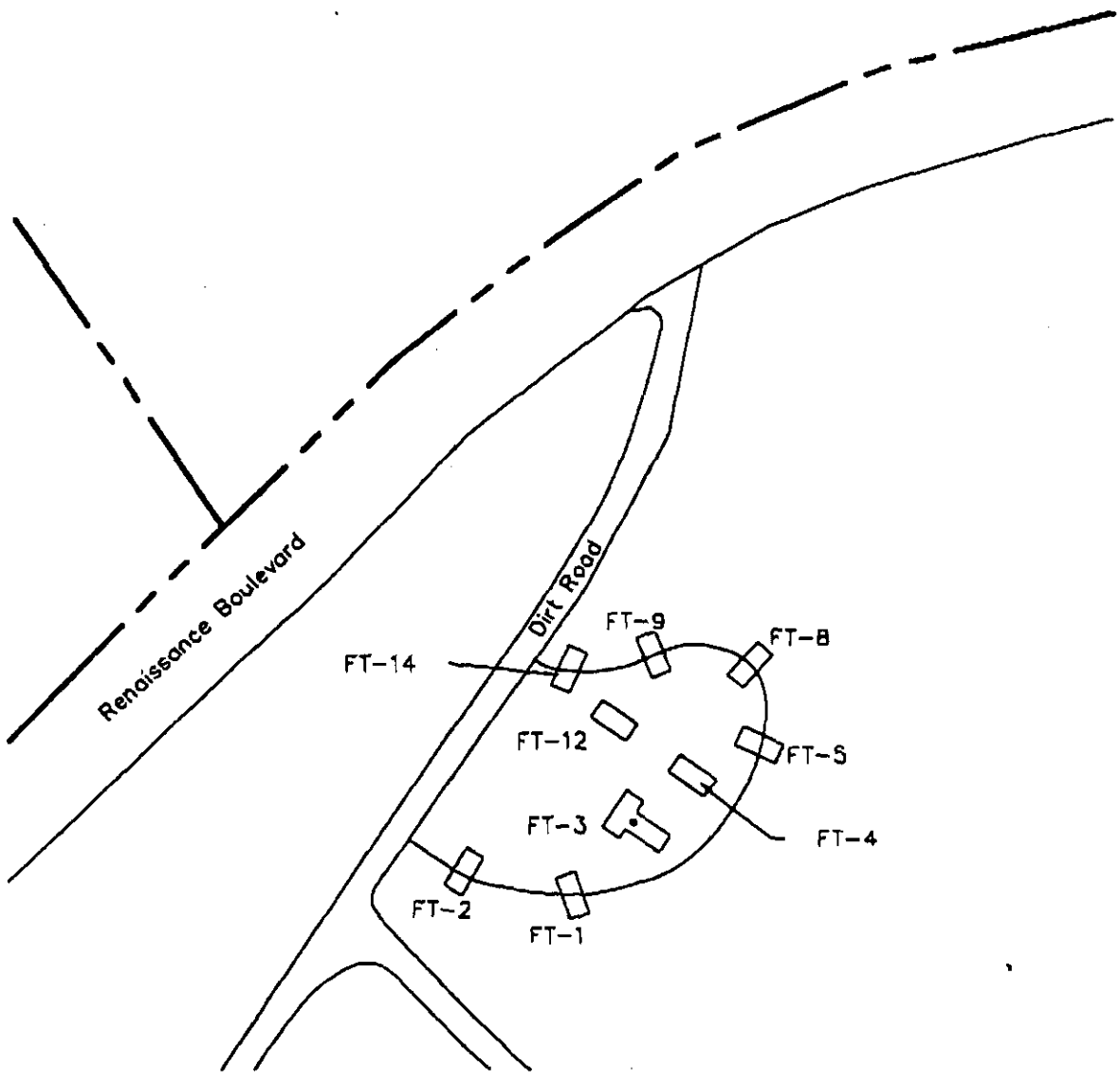

Figure 1

Map Showing the Approximate Locations of Test Trenches Installed Through the Cinder/Slag Fill Area

Notes:

FT-2 Approximate Location of Test Trench

• FT-3 Approximate Location of Sample

DRAWN BY:	DATE:	SCALE:
SMD	15-Nov-00	NTS

North

Penn E&R
Environmental & Remediation, Inc.
2755 Bergey Road
Hatfield, Pennsylvania 19440
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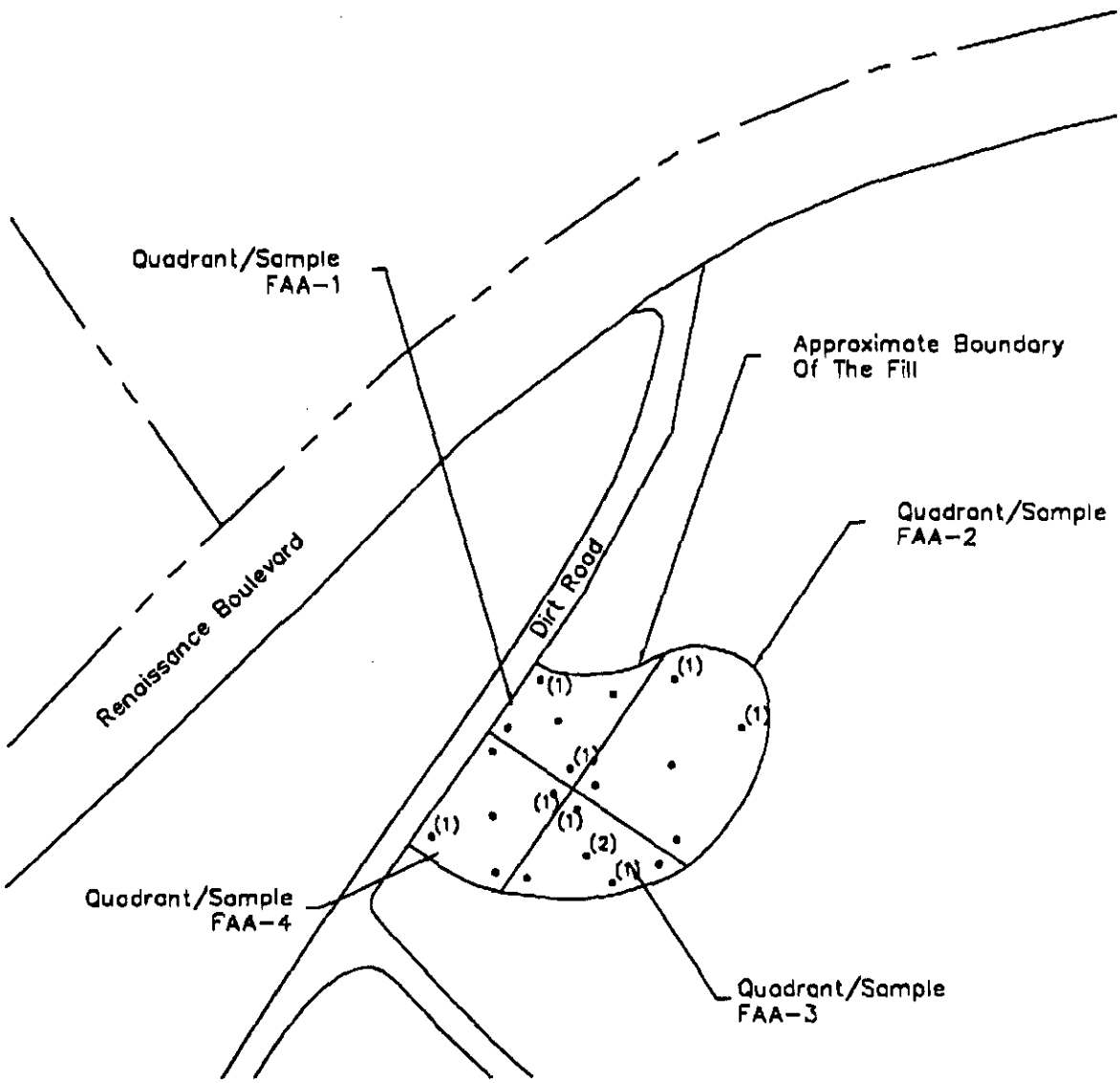

Figure 2

Map Showing Approximate Locations At Which Sample Aliquots For Samples FAA-1 Through FAA-4 Were Collected From the Cinder/Slag Fill Area

Notes:

• Individual Sample Aliquot Location

(1) These sample aliquots were composited to form sample FAA-SC/SG

(2) This is the location at which the volatile organic fraction of sample FAA-SC/SG was collected

DRAWN BY:	DATE:	SCALE:
SMD	15-Nov-00	NTS

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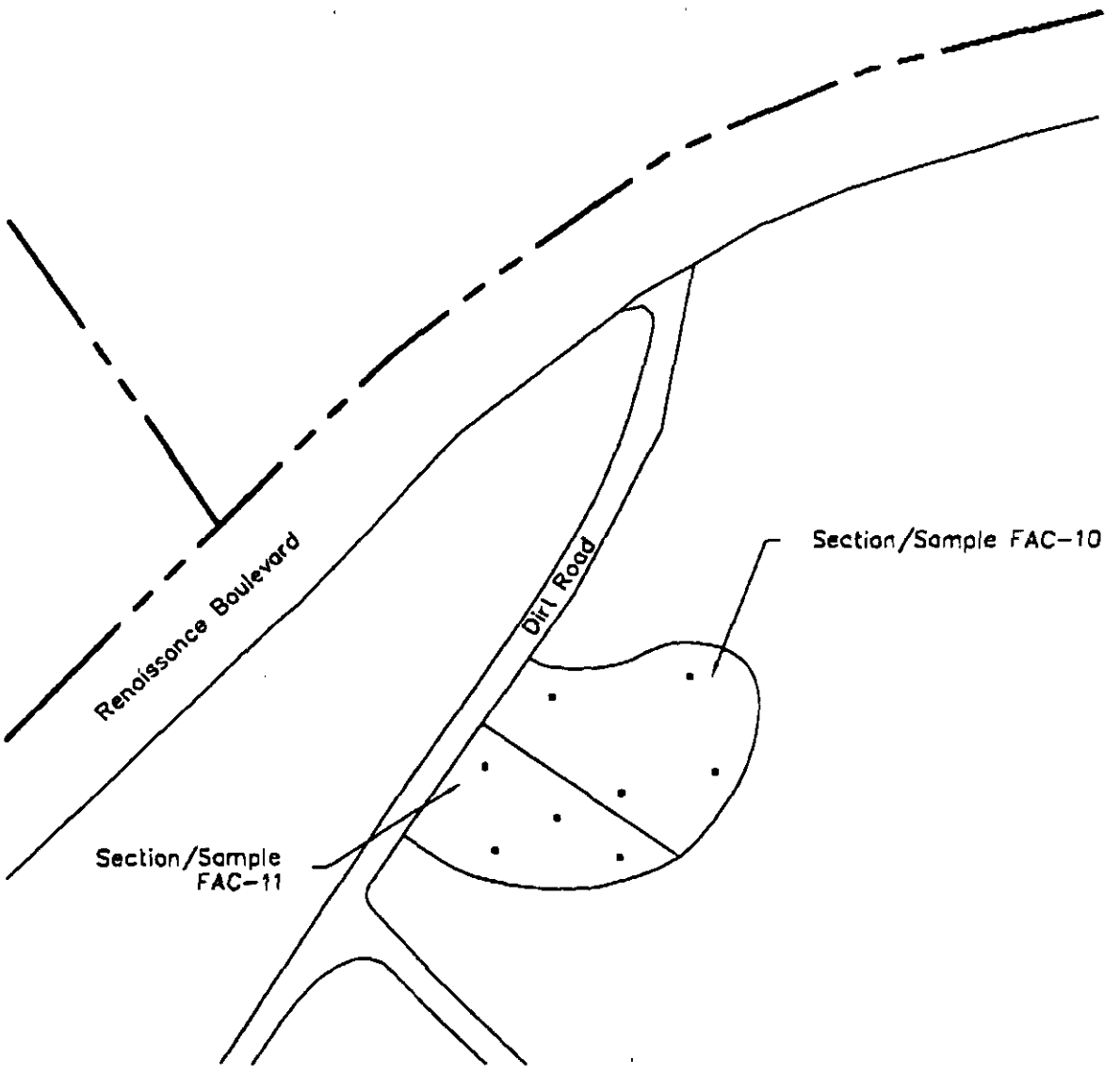

Figure 3

Map Showing Approximate Locations At Which Sample Aliquots for Samples FAC-10 and FAC-11 Were Collected From The Cinder/Slag Fill Area

DRAWN BY:	DATE:	SCALE:
SMD	15-Nov-00	NTS

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Notes:

- Approximate Location Of Individual Sample Aliquots

TABLE 1

SUMMARY OF ANALYTICAL RESULTS FOR THE SAMPLE COLLECTED FROM THE SLAG/CINDER FILL AREA

ANALYTICAL PARAMETERS	SAMPLE DESIGNATION/ ANALYTICAL RESULTS[1] FT-3	PADEP NSRG MSC[2]	USEPA SG SSL[3]
Volatile Organics[4]:			
Methylene Chloride	0.012JB	0.5	0.019
Semivolatile Organics[4]:			
Acenaphthylene	<0.44	4,400	NSA
Anthracene	<0.44	230	470
Benzo(a)anthracene	0.25J	320	1.5
Benzo(b)fluoranthene	0.34J	160	4.5
Benzo(k)fluoranthene	0.079J	600	4.5
Benzo(g,h,i)perylene	0.24JB	180	NSA
Benzo(a)pyrene	0.24JB	46	0.37
Bis(2-ethylhexyl)phthalate	0.39J	130	2,900
Carbazole	<0.44	NSA	NSA
Chrysene	0.27J	220	150
Dibenzo(a,h)anthracene	0.074J	160	1.4
Fluoranthene	0.34J	3,300	6,300
Fluorene	<0.44	380	140
Indeno(1,2,3-cd)pyrene	0.21J	28,000	22
Naphthalene	<0.44	10	0.15
Phenanthrene	0.13J	11,000	NSA
Pyrene	0.31J	220	680
Inorganics[4]:			
Aluminum	13800	NSA	NSA
Antimony	7.4C	27	13
Arsenic	**19.8**	150	0.026
Barium	996	8,200	2,100
Beryllium	0.54C	320	1,200
Cadmium	8.2	38	27
Calcium	29400	NSA	NSA
Chromium	67.5	190,000	$2x10^9$
Cobalt	16.4	610	NSA
Copper	401	36,000	11,000
Iron	75900	NSA	NSA
Lead	**2390**	450	NSA
Magnesium	4690	NSA	NSA
Manganese	744	NSA	950
Mercury	0.25	10	NSA
Nickel	92.0	650	NSA
Potassium	2100	NSA	NSA
Selenium	<0.72	26	19
Silver	3.1	84	31
Sodium	<52.5	NSA	NSA
Thallium	0.78C	14	3.6

TABLE 1 - CONTINUED

SUMMARY OF ANALYTICAL RESULTS FOR THE SAMPLE COLLECTED FROM THE SLAG/CINDER FILL AREA

ANALYTICAL PARAMETERS	SAMPLE DESIGNATION/ ANALYTICAL RESULTS[a] FT-3	PADEP NSRG MSC[a]	USEPA SG SSL[b]
Vanadium	28.0	71,508[5]	5,100
Zinc	5620	12,000	14,000
Cyanide	<1.33	200	150

Notes:

[1] - All results are in milligrams per kilogram

[2] - Pennsylvania Department of Environmental Protection, Land Recycling and Environmental Remediation Standards Act (Act 2), Non-Residential Used Aquifer Soil-to-Ground Water Medium Specific Concentration (August 1997)

[3] - United States Environmental Protection Agency, Region III, RBC Table, Soil-to-Ground Water Soil Screening Levels , DAF-20 (April 2000)

[4] - Only those volatile or semivolatile organic compounds which were detected above the method limit are shown

[5] - The current MSC developed for vanadium was incorrectly calculated. The PADEP is aware of this error. The MSC listed for vanadium was calculated using the correct toxicological data.

PADEP - Pennsylvania Department of Environmental Protection

NRSG - Non-Residential Soil-to-Ground Water

MSC - Medium Specific Concentration

USEPA - United States Environmental Protection Agency

SG - Soil-to-Ground Water

SSL - Soil Screening Level

J - Compound was detected below the method detection limit and the reported concentration should be considered an estimate.

B - This result is qualitatively invalid because the compound/analyte was also detected in a blank at a similar concentration.

C - The result is between the estimated quantitation limit and the instrument detection limit

<0.44 - Compound was not detected above the listed method detection limit

NSA - No Standard Available

Bold - Indicates compound was detected above either its PADEP MSC or USEPA SSL

ATTACHMENT 1

RESULTS FOR SAMPLES FAA-5C/5G AND FFA-1 THROUGH FAA-4

LABORATORIES
1008 W. Ninth Avenue • King of Prussia, Pennsylvania 19406 (610) 337-9992 FAX (610) 337-9933

Penn E & R	Client Project ID:	LPT	Sampled:	Mar 24, 1998
2755 Bergey Road	Sample Descript:	TCLP Extract FAA-3G	Received:	Mar 27, 1998
Hatfield, PA 19440	Analysis Method:	EPA 8260	Extracted:	Mar 31, 1998
Attention:	Lab Number:	803-1404	Analyzed:	Apr 5, 1998
Mike Christie			Reported:	Apr 7, 1998

TCLP VOLATILES

Analyte	Detection Limit mg/L	Sample Results mg/L
Benzene	0.40	N.D.
Carbon tetrachloride	0.40	N.D.
Chlorobenzene	0.40	N.D.
Chloroform	0.40	N.D.
1,2-Dichloroethane	0.40	N.D.
1,1-Dichloroethylene	0.40	N.D.
Methyl ethyl ketone	100	N.D.
Tetrachloroethylene	0.40	N.D.
Trichloroethylene	0.40	N.D.
Vinyl chloride	0.16	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GLA LABORATORIES

Crystal Pollock
Laboratory Director

LABORATORIES
1008 W. Ninth Avenue • King of Prussia, Pennsylvania 19406 (610) 337-9992 FAX (610) 337-9939

Penn E & R
2755 Bergey Road
Hatfield, PA 19440
Attention:
Mike Christie

Client Project ID: LPT
Sample Descript: TCLP Extract FAA-5C
Analysis Method: EPA 8270
Lab Number: 803-1405

Sampled: Mar 24, 1998
Received: Mar 27, 1998
Extracted: Mar 31, 1998
Analyzed: Apr 2, 1998
Reported: Apr 7, 1998

TCLP SEMI-VOLATILES

Analyte	Detection Limit mg/L	Sample Results mg/L
o-Cresol	20	N.D.
m-, p-Cresol	20	N.D.
Cresol	20	N.D.
1,4-Dichlorobenzene	0.75	N.D.
2,4-Dinitrotoluene	0.013	N.D.
Hexachlorobenzene	0.013	N.D.
Hexachloro-1,3-butadiene	0.050	N.D.
Hexachloroethane	0.30	N.D.
Nitrobenzene	0.20	N.D.
Pentachlorophenol	10	N.D.
Pyridine	0.50	N.D.
2,4,5-Trichlorophenol	40	N.D.
2,4,6-Trichlorophenol	0.20	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GLA LABORATORIES

Crystal Pollock
Laboratory Director

LABORATORIES
1008 W. Ninth Avenue • King of Prussia, Pennsylvania 19406 (610) 337-9992 FAX (610) 337-9939

Penn E & R	Client Project ID:	LPT	Sampled:	Mar 24, 1998
2755 Bergey Road	Sample Descript:	Soil FAA-5C	Received:	Mar 27, 1998
Hatfield, PA 19440	Analysis Method:	EPA 8081	Extracted:	Apr 2, 1998
Attention:	Lab Number:	803-1405	Analyzed:	Apr 2, 1998
Mike Christie			Reported:	Apr 7, 1998

POLYCHLORINATED BIPHENYLS (EPA 8081)

Analyte	Detection Limit µg/kg	Sample Results µg/kg,dry wt
PCB 1016	100	N.D.
PCB 1221	100	N.D.
PCB 1232	100	N.D.
PCB 1242	100	N.D.
PCB 1248	100	N.D.
PCB 1254	100	N.D.
PCB 1260	100	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GLA LABORATORIES

Crystal Pollock
Laboratory Director

LABORATORIES
1008 W. Ninth Avenue • King of Prussia, Pennsylvania 19406 (610) 337-9992 FAX (610) 337-9933

Penn E&R	Client Project ID:	LPT	Sampled: Mar 24, 1998
2755 Bergey Road	Sample Descript:	TCLP Extract FAA-5C	Received: Mar 27, 1998
Hatfield, PA 19440	Method of Analysis	EPA 8080	Extracted: Mar 31, 1998
Attention:	Lab Number:	803-1405	Analyzed: Apr 1, 1998
Mike Christie			Reported: Apr 7, 1998

TCLP PESTICIDES

Analyte	Detection Limit mg/L	Sample Results mg/L
Chlordane	0.0030	N.D.
Endrin	0.0020	N.D.
Heptachlor (and its epoxide)	0.00080	N.D.
Lindane	0.040	N.D.
Methoxychlor	1.0	N.D.
Toxaphene	0.050	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GLA LABORATORIES

Crystal Pollock
Laboratory Director

GLA LABORATORIES
1008 W. Ninth Avenue • King of Prussia, Pennsylvania 19406 (510) 337-9992 FAX (510) 337-9939

Penn E & R	Client Project ID:	LPT	Sampled: Mar 24, 1998
2755 Bergey Road	Sample Descript:	TCLP Extract FAA-5C	Received: Mar 27, 1998
Hatfield, PA 19440	Method of Analysis	EPA 8150	Extracted: Apr 14, 1998
Attention:	Lab Number:	803-1405	Analyzed: Apr 14, 1998
Mike Christie			Reported: Apr 14, 1998

TCLP HERBICIDES

Analyte	Detection Limit mg/L	Sample Results mg/L
2,4,5-TP (Silvex)	0.10	N.D.
2,4-D	1.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GLA LABORATORIES

Crystal Pollock
Laboratory Director

LA APR. 30. 2001 10:35AM 215 822 8575
1000 W. Ninth Avenue • King of Prussia, Pennsylvania 19406 (610) 337-9932 FAX (610) 337-9939

Penn E & R	Client Project ID:	LPT	Sampled:	Mar 24, 199
2755 Bergey Road	Sample Descript:	TCLP Extract	Received:	Mar 27, 199
Hatfield, PA 19440		FAA-5C	Extracted:	Mar 31, 199
Attention:	Lab Number:	803-1405	Analyzed:	Apr 1, 199
Mike Christie			Reported:	Apr 7, 199

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP): METALS

Analyte	EPA Method	Detection Limit mg/L (ppm)	Sample Results mg/L (ppm)
Arsenic	3010/7060	0.50	N.D.
Barium	3010/7080	10	N.D.
Cadmium	3010/7130	0.10	N.D.
Chromium	3010/7190	0.20	N.D.
Lead	3010/7420	0.50	N.D.
Mercury	7470	0.02	N.D.
Selenium	3010/7740	0.10	N.D.
Silver	3010/7760	0.50	N.D.
Copper	3010/7210	0.20	N.D.
Nickel	3010/7520	0.20	N.D.
Zinc	3010/7950	0.20	50.0

Analytes reported as N.D. were not present above the stated limit of detection.

GLA LABORATORIES

Crystal Pollock
Laboratory Director

GLA LABORATORIES 1008 W. Ninth Avenue • King of Prussia, Pennsylvania 19406 (610) 337-9992 FAX (610) 337-9939

Penn E & R
2755 Bergey Road
Hatfield, PA 19440
Attention:
Mike Christie

Client Project ID: LPT
Sample Descript: Soil
FAA-5C
Lab Number: 803-1405

Sampled: Mar 24, 1998
Received: Mar 27, 1998

Analyzed: Mar27-Apr6,1998
Reported: Apr 8, 1998

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/kg	Sample Results mg/kg
Flashpoint	1010	N/A	>200F
pH	9045	N/A	7.59 pH
Paint filter	9095	N/A	Pass
Total solids	160.3	10	71 (%)
Volatile solids	160.4	10	127340
Oil and grease	413.1	30	767
Reactive cyanide	7.3.3	0.25	N.D.
Reactive sulfide	7.3.4	6.5	12

Analytes reported as N.D. were not present above the stated limit of detection.

GLA LABORATORIES

Crystal Pollock
Laboratory Director

LABORATORIES 1008 W. Ninth Avenue • King of Prussia, Pennsylvania 19406 (610) 337-9992 FAX (610) 337-9939

Penn E & R
2755 Bergey Road
Hatfield, PA 19440
Attention:

Client Project ID: LPT
Sample Descript: ASTM Leachate FAA-5C
Lab Number: 803-1405

Sampled: Mar 24, 1998
Received: Mar 27, 1998
Analyzed: Mar30-Apr7,1998
Reported: Apr 8, 1998

LABORATORY ANALYSIS

Analyte	EPA Method	Detection Limit mg/L	Sample Results mg/L
COD	410.4	100	N.D.
Ammonia	350.1	0.10	0.17
Oil and Grease	413.1	5.0	N.D.
Total Solids	160.3	10	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SLA LABORATORIES

Crystal Pollock
Laboratory Director

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1008 W. Ninth Avenue • King of Prussia, Pennsylvania 19406 (610) 337-9992 FAX (610) 337-9933

Penn E & R
2755 Bergey Road
Hatfield, PA 19440
Attention:
Mike Christie

Client Project ID: LPT
Sample Descript: Water
Analysis for: TCLP Lead 1311/3010/7420
First Sample #: 803-1400

Sampled: Mar 24, 1998
Received: Mar 27, 1998
Extracted: Mar 31, 1998
Analyzed: Apr 1, 1998
Reported: Apr 7, 1998

LABORATORY ANALYSIS FOR: TCLP Lead 1311/3010/7420

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
803-1400	FAA-1	0.50	0.64
803-1401	FAA-2	0.50	N.D.
803-1402	FAA-3	0.50	0.56
803-1403	FAA-4	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GLA LABORATORIES

Crystal Pollock
Laboratory Director

ATTACHMENT 2

RESULTS FOR SAMPLES FAC-10 AND FAC-11

LABORATORIES
215 822 8575
1008 W. Ninth Avenue • King of Prussia, Pennsylvania 19406
(610) 337-9992 FAX (610) 337-9539

Penn E & R
2755 Bergey Road
Hatfield, PA 19440
Attention: Mike Christie

Client Project ID: LPT
Sample Descript: TCLP Extract
Soil FAC -10
Lab Number: 910-0380

Sampled: Oct 7, 1999
Received: Oct 7, 1999
Analyzed: Oct 12, 1999
Reported: Oct 18, 1999

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP): METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Results mg/L (ppm)
Arsenic	3010/6010B	0.060	N.D.
Barium	3010/6010B	0.020	1.5
Cadmium	3010/6010B	0.010	0.041
Chromium	3010/6010B	0.020	N.D.
Lead	3010/6010B	0.10	3.4
Mercury	7470	0.0010	N.D.
Selenium	3010/6010B	0.10	N.D.
Silver	3010/6010B	0.020	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GLA LABORATORIES

Crystal Pollock
Laboratory Director

GLA LABORATORIES
1008 W. Ninth Avenue • King of Prussia, Pennsylvania 19406 (610) 337-9992 FAX (610) 337-9939

Penn E & R
2755 Bergey Road
Hatfield, PA 19440
Attention: Mike Christie

Client Project ID: LPT
Sample Descript: TCLP Extract Soil FAC -11
Lab Number: 910-0381

Sampled: Oct 7, 199
Received: Oct 7, 199
Analyzed: Oct 12, 199
Reported: Oct 18, 199

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP): METALS

Analyte	EPA Method	Reporting Limit mg/L (ppm)	Sample Results mg/L (ppm)
Arsenic	3010/6010B	0.060	N.D.
Barium	3010/6010B	0.020	1.9
Cadmium	3010/6010B	0.010	0.038
Chromium	3010/6010B	0.020	N.D.
Lead	3010/6010B	0.10	0.39
Mercury	7470	0.0010	N.D.
Selenium	3010/6010B	0.10	N.D.
Silver	3010/6010B	0.020	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GLA LABORATORIES

Crystal Pollock
Laboratory Director

GLA LABORATORIES
1008 W. Ninth Avenue • King of Prussia, Pennsylvania 19406 (610) 337-9992 FAX (610) 337-9939

Penn E&R
2755 Bergey Road
Hatfield, PA 19440
Attention: Mike Christie

Client Project ID: LPT
Sample Descript: Soil FAC-10
Analysis Method: EPA 8082
Lab Number: 910-0380

Sampled: Oct 7, 1999
Received: Oct 7, 1999
Extracted: Oct 8, 1999
Analyzed: Oct 13-14, 1999
Reported: Oct 18, 1999

POLYCHLORINATED BIPHENYLS (EPA 8082)

Analyte	Reporting Limit µg/kg	Sample Results µg/kg,dry wt
PCB 1016	150	N.D.
PCB 1221	150	N.D.
PCB 1232	150	N.D.
PCB 1242	150	N.D.
PCB 1248	150	N.D.
PCB 1254	150	N.D.
PCB 1260	150	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GLA LABORATORIES

Crystal Pollock
Laboratory Director

GLA LABORATORIES
1908 W. Ninth Avenue • King of Prussia, Pennsylvania 19406 (610) 337-9992 FAX (610) 337-9939

Penn E & R
2755 Bergey Road
Hatfield, PA 19440
Attention: Mike Christie

Client Project ID: LPT
Sample Descript: Soil FAC-11
Analysis Method: EPA 8082
Lab Number: 910-0381

Sampled: Oct 7, 1999
Received: Oct 7, 1999
Extracted: Oct 8, 1999
Analyzed: Oct 13, 1999
Reported: Oct 18, 1999

POLYCHLORINATED BIPHENYLS (EPA 8082)

Analyte	Reporting Limit µg/kg	Sample Results µg/kg,dry wt
PCB 1016	150	N.D.
PCB 1221	150	N.D.
PCB 1232	150	N.D.
PCB 1242	150	N.D.
PCB 1248	150	N.D.
PCB 1254	150	N.D.
PCB 1260	150	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GLA LABORATORIES

Crystal Pollock
Laboratory Director

LABORATORIES
1008 W. Ninth Avenue • King of Prussia, Pennsylvania 19406 (610) 337-9992 FAX (610) 337-9939

Penn E & R
2755 Bergey Road
Hatfield, PA 19440
Attention: Mike Christie

Client Project ID: LPT
Matrix Descript: Soil
Analysis Method: EPA 418.1 (I.R. with clean-up)
First Sample #: 910-0380

Sampled: Oct 7, 1999
Received: Oct 7, 1999
Analyzed: Oct 18, 1999
Reported: Oct 18, 1999

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

Sample Number	Sample Description	Petroleum Oil mg/kg (ppm) Dry Wt.
910-0380	FAC - 10	210
910-0381	FAC - 11	210

Reporting Limit:	50

GLA LABORATORIES

Crystal Pollock
Laboratory Director

9100380.PER <5>

********** -JOURNAL- ********** DATE APR-30-2001 ***** TIME 10:29 ********

NO.	COM	PAGES	FILE	DURATION	X/R	IDENTIFICATION	DATE	TIME	DIAGNOSTIC
01	OK	001/001	183	00:01'17	XMT	918569649818	APR-26	10:38	2840470377000
02	OK	006/006	184	00:06'29	XMT	916313965140	APR-26	11:38	6840470347000
03	OK	002/002	185	00:00'39	XMT	916313965140	APR-26	12:12	6840470377000
04	OK	003/003	186	00:00'46	XMT	917573935148	APR-26	15:50	E840470377000
05	OK	005/005	187	00:01'56	XMT	913023952615	APR-26	15:55	0840460231000
06	OK	009	188	00:02'51	RCV	6105621263	APR-26	16:01	0150270577000
07	OK	002	189	00:01'04	RCV	302 395 5802	APR-26	16:37	0150270367000
08	OK	009/009	190	00:02'35	XMT	9-13045583998	APR-26	16:52	8840470377000
09	OK	009/009	191	00:02'37	XMT	9-16157367676	APR-26	16:55	0800470377000
10	OK	006/006	192	00:01'30	XMT	9-14126423957	APR-26	16:59	0840470377000
11	OK	006/006	193	00:01'35	XMT	9-13172486472	APR-26	17:01	A840470377000
12	OK	005	194	00:01'35	RCV		APR-27	08:11	0110270377000
13	OK	005	195	00:02'45	RCV	215-814-2020	APR-27	08:13	0150270237000
14	OK	003/003	196	00:00'48	XMT	9-14126423957	APR-27	08:26	0840470377000
15	OK	004	197	00:02'21	RCV	610 921 4062	APR-27	08:34	0150260A70000
16	OK	002	198	00:00'51	RCV	4103053095	APR-27	09:07	0150270337000
17	OK	006	199	00:04'27	RCV	215-814-2020	APR-27	10:24	0150270237000
18	OK	005	200	00:01'32	RCV	412 787 8065	APR-27	10:51	C0542B0377000
19	OK	003	201	00:01'29	RCV	6108612072	APR-27	11:24	0150260A71000
20	OK	003/003	202	00:00'57	XMT	913023261897	APR-27	11:31	0800470337000
21	STOP	000/002	203	00:00'09	XMT	913023952601	APR-27	11:32	4A00460200000
22	OK	003/003	204	00:00'58	XMT	913023261897	APR-27	11:37	0800470337000
23	OK	003/003	205	00:00'46	XMT	913023952601	APR-27	11:38	4800470377000
24	OK	004	207	00:02'19	RCV	6108264827	APR-27	11:41	0150260A37000
25	OK	003/003	206	00:00'48	XMT	913023955802	APR-27	11:44	0840470377000
26	OK	003/003	208	00:00'46	XMT	913026789415	APR-27	11:46	4840470377000
27	OK	002	209	00:00'45	RCV	4103053095	APR-27	14:06	0150270337000
28	OK	009/009	210	00:02'57	XMT	9-13045583998	APR-27	15:23	8840470377000
29	OK	001	211	00:00'28	RCV	PANAFAX UF-755E	APR-27	15:31	C0542B0377000
30	OK	005	212	00:01'27	RCV	412 642 3957	APR-27	16:17	0150270377000
31	OK	002/002	213	00:00'32	XMT	9-14126423957	APR-27	17:14	0840470377000
32	OK	027	214	00:06'40	RCV	215 822 8575	APR-30	10:23	0150270377000

********** -USEPA REG03 - ***** - 215 814 3002- **********